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NEW AMPHIBIANS FROM PANAMÁ.<sup>1</sup>

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AMONG the material taken last summer (1923) in Panamá by C. B. Duryea and myself was a small caecilian which seems to be new. It was found under the following circumstances. We were eating breakfast on the 6th of August, in a palm-thatch hut some distance off the trail between Chiriquicito and Boquete, when one of our guides called attention to a "snake" which was coming out of the ground under the raised platform on which we slept. It proved to be a caecilian. All efforts to pull it out being fruitless, it was dug from its burrow. With the animal in hand the peculiar small head and thick body explained the difficulty of extrication. The shape of the creature seemed very strange to me, and examination of the available literature and collections has not afforded a parallel. It fits, however, into the recent definition of the genus *Siphonops*, and serves to add that genus to the fauna of North America. It may be called

*Siphonops parviceps*, new species.

*Type*.—No. 9407, Museum of Comparative Zoölogy, from La Loma, on trail from Chiriquí Grande to Boquete, altitude about 2000 feet, Province of Bocas del Toro, Panamá. E. R. Dunn and Chester B. Duryea, collectors.

*Diagnosis*.—A *Siphonops* with head much smaller than body in diameter; circular folds extending to anus; primary series all complete, secondary series present. Primaries 96, secondaries 13.

*Description*.—Diameter of head 5 mm., diameter of neck 5 mm., posterior angle of mouth to tip of snout 6 mm., diameter of body 8 mm. Primary folds all complete, 96 in number, extending to anus. Secondary folds 13 in number, first three incomplete, interpolated between last 13 primary folds. Maxillary teeth 13, palatine teeth 10, mandibular teeth 10. Tentacle between eye and nostril, nearer to lip than to either, slightly nearer to eye than to nostril. Eye nearer to lip than to tentacle; nearer to lip than nostril. Eyes farther apart than length of snout. Black; head lighter, tinged with brown. Length 180 mm., greatest diameter 8 mm., greatest circumference 22 mm. Ratio of length to diameter 22.5; ratio of length to circumference 8.

*Remarks*.—This species is a *Siphonops* as defined by Nieden. It has visible eyes, horseshoe-shaped tentacular groove, no scales, one row of mandibular teeth, and the parietal and squamosal are in contact. It differs from described species of *Sipho-*

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nops in having a series of secondary folds. It differs from *Siphonops annulatus*, which also has an extremely low count of folds, in lacking the bare region anterior to the anus. In habitus it differs from any described species of the order.

Among the specimens collected in the Canal Zone by Dr. Thomas Barbour's party during the last winter (1924) is a small salamander which seems to be new. It may be called

**Oedipus complex**, new species.

*Type*.—No. 9408, Museum of Comparative Zoölogy, a young male, from Las Cascadas, near Gamboa, Canal Zone.

*Range*.—Known only from type locality.

*Diagnosis*.—A worm-like Oedipus with reduced limbs, toes fully webbed, 17 costal grooves, maxillary teeth present, snout short and blunt, eye as long as its distance from tip of snout.

*Description*.—The type is a young male, 17 costal grooves; 9 costal folds between appressed toes; head width  $7\frac{1}{2}$  in length from snout to vent; head length  $5\frac{2}{3}$  in length of body; head a blunt oval as seen from above; eye longer than its distance from tip of snout; angle of jaw back of upper angle of eye; outline of upper jaw convex as seen from side; both eyelids fitting under a fold of skin behind; a groove from eye to gular fold; a groove from this down behind angle of jaw; tail longer than head and body, constricted off at base, terete; lips of vent papillate. Limbs weak; fingers 3, 2, 4, 1, in order of length, completely webbed, tip of 3 projecting slightly; toes 3, 4, 2, 5, 1, in order of length, completely webbed, tip of 3 projecting slightly; vomerine teeth 8-9 in series, beginning beyond outer border of nares, curving in and back, each group separated from its fellow by width of nares and from parasphenoids by twice that distance; latter in a single patch, beginning opposite anterior fourth of eye-socket; maxillary completely toothed. Brownish black, with brown flecks above; these are most concentrated on the dorsum of the tail and in a dorsolateral line on each side of the body; leaden below with light flecks.

Total length 67 mm., head 5, body 27, tail 35.

*Habits*.—The type was taken while a termite's nest was being cut from a log.

*Remarks*.—Probably most nearly allied to *Oedipus uniformis* from which it differs mainly in having 17 rather than 19 costal grooves. From the other form with 17 costal grooves, *Oedipus parvipes*, it differs widely in shape of head, size of eye, maxillary dentition, and, to a less extent, in the amount of webbing of the toes.

The worm-like forms of Oedipus, frequently known as Oedipina, fall into two rather natural groups, which are distinguished by the shape of the head or rather of the snout. Some forms have a short, rounded snout and large eyes, while others have a long, narrow snout and small eyes.

Short blunt snout.	Long sharp snout.	Number of costal grooves.
<i>lineolus</i>		14
<i>infuscatus</i>		?
<i>complex</i>	<i>parvipes</i>	17
<i>uniformis</i>	<i>collaris</i>	19
	<i>alfaroi</i>	20

Several tendencies are noticeable in this series of forms: *parvipes* has few and *alfaroi* no teeth on the maxilla; *lineolus*, *uniformis* and *alfaroi* have lost the basal constriction of the tail, and it is weakly developed in *parvipes*.

It is probable that *infuscatus* is wrongly recorded from Haiti and is indeed a synonym of *lineolus*. It was described on the same page as *parvipes* and was said to have smaller legs (in *parvipes* hind leg reaches over 4 costal folds, in *infuscatus* the hind leg reaches the antepenultimate groove, hence over two folds). Furthermore, it has a long narrow form, the head width being 7 times included in the length from snout to vent; and the tip of the tail was reproduced, which could not be true of any *Oedipus* unless the basal constriction of the tail was weak or lacking as in these worm-like forms. The proportions given are quite those of *lineolus*.

Disregarding the Haitian form as mythical, the general relationships of the Panamanian and Costa Rican forms may be stated thus: in Panamá occur two forms with 17 costal grooves, each related to a Costa Rican form which is more elongate and has 19-20 costal grooves. These two sets are *complex-uniformis*, and *parvipes-alfaroi*. *Oedipus collaris*, a large sharp-snouted form, ranges from Panamá to Nicaragua; *lineolus*, with fewest costal grooves, is known only from Mexico.